roots eighteen to twenty feet long giving rise to five or six separate stems. Here the new shoots arise as "adventitious" buds upon the upper side of the parent roots. The latter are doubtless enabled by this very trait of bud-bearing to continue their growth in length through several years and extend far beyond ordinary limits.

In *Spiranthes cernua* the method of vegetative reproduction is different, as will be seen from the following observations. Some years ago, when looking over in early spring some plants of this species that had been transplanted the year before, I noticed a number of small individuais that looked as if they might be seedlings. But on closer investigation they proved to be young plants of non-sexual growth, arising from the roots of the previous year and in most cases being developed from the tip of the root. At first I thought this might be a case of adaptation to the new conditions of growth in the garden after transplanting, but upon search in the field I found that a large number of cases showed the same phenomena, and I have recently found a similar development in *Neottia* referred to by Strasburger. It seems worth while therefore to call the attention of the readers of RHODORA to this noteworthy method of reproduction in one of our orchids. The accompanying sketch shows the manner of growth of the new plant. The most interesting aspect of the matter is that the tip of the root, which usually possesses a structure peculiar to itself, is here converted, as it appears directly into the growing point of a stem.

CAMBRIDGE, MASSACHUSETTS.

A NEW JUNCUS OF THE GROUP POIOPHYLLI.

HARLEY HARRIS BARTLETT.

Juncus monostichus, sp. nov. — Erect, 3–5 dm. tall; culms compressed; leaves basal, from ½–¾ length of culm; blades 0.5–1.5 mm. broad, involute in drying; sheaths loose, mostly free, margins scarious; auricles produced, scarious; inflorescence 4–8 cm. long, much exceeded by its lowest bract, stramineous when mature; branches of inflorescence 1–2.5 cm. long, often incurved, bearing 3–9 conspicuously secund flowers; perianth-segments 4–5 mm. long,

lanceolate, acuminate, with hyaline margins; stamens six, about one-half as long as the perianth; anthers pale yellow, shorter than the filaments; capsule 2 mm. long, trigonous-obovoid, concealed by the closely appressed perianth; placentae not meeting in the axis; stigmas red-brown, reaching almost to tip of perianth; seeds few, ovoid, 0.5 mm. long by 0.2 mm. broad, coarsely reticulate in about 16 rows, areolae longitudinally oblong, 2–2½ times as long as broad.

The type specimens of *Juncus monostichus* were collected south of Anderson, Indiana, by Mr. Charles Piper Smith. He could not refer them to any described species, and very kindly gave me his material for further investigation. It was found to be closely related to *Juncus dichotomus* and *Juncus secundus*, but differed from both in its very small capsules, long basal leaves and large, longitudinally reticulate seeds.

Besides the type material, which has been divided between the Gray Herbarium and the writer's herbarium, there is a sheet in the Gray Herbarium from central Arkansas (F. L. Harvey, no. 9) which is referable to *Juncus monostichus*. The Arkansas plant is mature, but sterile. The capsules of the Indiana plant contain undeveloped ovules, and from one to ten mature seeds. Whether or not this sterile tendency is characteristic of the species, can be determined only by an examination of more material.

The range is, of course, undetermined. Probably a large part of the plants of the Mississippi basin which have been determined as *Juncus secundus* belong to the new species. *Juncus dichotomus* is included in S. Coulter's "Catalogue of the Flowering Plants and Ferns of Indiana," upon the authority of Dr. J. Schneck, whose collections were passed upon by Gray. Dr. Schneck's material should be re-examined, however, as it seems extremely improbable that the range of *Juncus dichotomus* extends as far west as Indiana. The writer will be glad to examine western plants which have been referred to either of the above species.

Gray Herbarium.